

**FEB/FY06**

# **SOLDIER SYSTEMS CENTER**

Massachusetts

Army Defense Environmental  
Restoration Program  
Installation Action Plan



Final 20 June 2006

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## Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year restoration program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations, necessary remedial actions.

In an effort to coordinate planning information between the Installation Restoration Program Manager, US Army Environmental Center (USAEC), major Army commands (MACOMs), executing agencies, regulatory agencies, and the public, an IAP has been completed for the Soldier Systems Center. The IAP is used to track requirements, schedules and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change. Under current project funding, all remedies will be in place at the Soldier Systems Center by the end of 2009.

The following persons contributed to the formulation and completion of this Installation Action Plan during a workshop held on 28 February 2006:

### **Company/Installation/Branch**

MA Department Environmental Protection

Soldier Systems Center

Engineering & Environment, Inc. for USAEC

US Army Environmental Center

Environmental Protection Agency

## Acronyms & Abbreviations

<b>ADRA</b>	Ammunition Demilitarization and Renovation Area
<b>AEDB-R</b>	Army Environmental Database - Restoration (formerly DSERTS)
<b>ALF</b>	Abandoned Landfill
<b>ATCOM</b>	Aviation and Troop Command
<b>BRAC</b>	Base Realignment and Closure Action
<b>CBD COM</b>	Chemical and Biological Defense Command
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>DERA</b>	Defense Environmental Restoration Account
<b>DRMO</b>	Defense Reutilization and Marketing Office
<b>DSERTS</b>	Defense Site Environmental Restoration Tracking System (now AEDB-R)
<b>ER,A</b>	Environmental Restoration, Army (formerly called DERA)
<b>EPA</b>	U.S. Environmental Protection Agency
<b>FFSRA</b>	Federal Facility Site Remediation Agreement
<b>FS</b>	Feasibility Study
<b>FY</b>	Fiscal Year
<b>GAC</b>	Granular Activated Carbon
<b>GOCO</b>	Government Owned Contractor Operated
<b>GOGO</b>	Government Owned Government Operated
<b>HRS</b>	Hazardous Ranking Score
<b>IRA</b>	Interim Remedial Action
<b>IRP</b>	Installation Restoration Program
<b>MADEP</b>	Massachusetts Department of Environmental Protection (MDEP)
<b>MCL</b>	Maximum Contaminant Level
<b>NCTRF</b>	Navy Clothing and Textile Research Facility
<b>NE</b>	Not Evaluated
<b>NFA</b>	No Further Action
<b>NR</b>	Not Rated
<b>NPL</b>	National Priorities List
<b>NRDEC</b>	Natick Research, Development and Engineering Center
<b>OB/OD</b>	Open Burning/Open Detonation
<b>OMA</b>	Operations and Maintenance, Army
<b>PBC</b>	Performance Based Contract
<b>PCE</b>	Tetrachloroethylene
<b>P &amp; E</b>	Propellant and Explosive
<b>PM-SSPT</b>	Product Manager-Soldier Support
<b>POL</b>	Petroleum, Oil & Lubricants
<b>PRP</b>	Potentially Responsible Party
<b>RA</b>	Remedial Action
<b>RA(C)</b>	Remedial Action (Construction)
<b>RA(O)</b>	Remedial Action (Operation)
<b>RAB</b>	Restoration Advisory Board
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RD</b>	Remedial Design
<b>REM</b>	Removal

## Acronyms & Abbreviations

<b>RI</b>	Remedial Investigation
<b>RIP</b>	Remedy in Place
<b>ROD</b>	Record of Decision
<b>RRSE</b>	Relative Risk Site Evaluation
<b>SI</b>	Site Inspection
<b>SBCCOM</b>	Soldier and Biological Chemical Command
<b>SSC</b>	Soldier Systems Center
<b>SSCOM</b>	Soldier Systems Command
<b>STP</b>	Sewage Treatment Plant
<b>SVOC</b>	Semi-Volatile Organic Compounds
<b>TCE</b>	Trichloroethylene
<b>TNT</b>	Trinitrotoluene
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>TROSCOM</b>	Troop Support Command
<b>Ug/g</b>	microgram per gallon
<b>Ug/l</b>	microgram per liter
<b>USACHPPM</b>	United States Army Center for Health Promotion and Preventive Medicine
<b>USACE</b>	United States Army Corps of Engineers
<b>USAEC</b>	United States Army Environmental Center
<b>USAEHA</b>	United States Army Environmental Hygiene Agency (now USACHPPM)
<b>USARIEM</b>	United States Army Research Institute of Environmental Medicine
<b>USATHAMA</b>	United States Army Toxic and Hazardous Material Agency (now USAEC)
<b>UST</b>	Underground Storage Tank
<b>UXO</b>	Unexploded Ordnance
<b>VOC</b>	Volatile Organic Compounds
<b>Zone 2</b>	Area of contribution to a municipal water system that has 6 months of pumping with no recharge

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## Installation Information

**Installation Locale:** Soldier Systems Center is located on a peninsula on the eastern shores of Lake Cochituate in the Town of Natick, Massachusetts, approximately 20 miles west of Boston. The surface of the lake is 138 feet above mean sea level. The town of Natick is a suburban area typified by light industry, with a population of 30,000.

**Installation Mission:** Soldier Systems Center is responsible for researching, developing, fielding, and managing food, clothing, shelters, airdrop systems, and soldier support items. Natick's goal is simple: Provide America's soldiers with the best equipment in the world. To achieve this goal, the Natick team has consolidated full life-cycle management of soldier items into a one-stop, soldier support organization.

**Lead Organization:** Installation Management Agency, Northeast Region

**Lead Executing Agencies:**

Soldier Systems Center Garrison, Environmental Safety and Health Office

**Regulatory Participation:**

**Federal:** US Environmental Protection Agency, New England

**State:** Massachusetts Department of Environmental Protection (MADEP)

**NPL Status:**

National Priorities Listed (May 1994) HSR2 Score: 50

Groundwater Contamination with suspected off-post contamination

**RAB/TRC/TAPP STATUS:** The US Army Soldier Systems Center (SSC) established a Restoration Advisory Board (RAB) in 1995 to bring local citizens into the decision making process on environmental issues. The Board consists of representatives from the Army, Environmental Protection Agency, Massachusetts Department of Environmental Protection, Massachusetts Department of Environmental Management, SSC employee representatives, and community members. The community members were chosen to represent different groups within the town of Natick (i.e. Lakewood Neighborhood Association [received TAG], Lake Cochituate State Park, Lake Cochituate Advisory Committee) and act as information liaisons between the community and the U.S. Army. The Lakewood Association was awarded a Technical Assistance Grant (TAG) to help better understand technical information involved with restoration activities. As an advisory committee, the RAB reviews environmental documents and plans, helps prioritize budget expenditures, provides advice to the U.S. Army, and communicates information back to the community. The RAB has met periodically since August 1995.

### ***Installation Program Summaries***

#### ***IRP***

Primary Contaminants of Concern: POL, Pesticides, Chlorinated Solvents

Affected Media of Concern: Groundwater, Soil, Sediment

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 2005/2017

Funding to date (up to FY05): \$37,760K

Current year funding (FY06): \$ 2,098K

Cost-to-Complete (FY07+): \$15,175K

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## Cleanup Program Summary

***Installation Historic Activity:*** Since 1983, Natick Laboratory was one of two facilities (along with the US Army Belvoir Research Development, and Engineering Center) under the US Army Troop Support Command (TROSCOM). During 1992, Natick Laboratory was consolidated under US Army Aviation and Troop Command (ATCOM). In 1994, the Soldier Systems Command (SSCOM) was established. In 1998, The SSCOM merged with the Chemical and Biological Defense Command (CBDCOM) to form the Soldier and Biological Chemical Command (SBCCOM). The Natick Site (Soldier Systems Center) currently includes Headquarters and Headquarters Detachment, the Natick Soldier Center, the Integrated Logistics Support Center (ILSC), as well as Product Manager-Soldier Support (PM-SSPT). The command also has elements of the Project Manager-Soldier (PM-Soldier). The current mission of the Soldier Systems Center (SSC) at Natick is to develop, integrate, acquire, and sustain soldier and related support systems to modernize, balance, and improve the soldier's warfighting capabilities, performance, and quality of life.

Natick R, D, and E Center was officially established in 1953 as the Quartermaster Research and Development Center, a major US Army laboratory whose primary mission was the research and development of food, clothing, and personal and organizational equipment vital to the support of the individual combat soldier. Prior to that time, particularly during World Wars I and II, research had been scattered at different facilities across the country under the Quartermaster Command.

Most of the 78-acre site on Lake Cochituate was donated by the Town of Natick. The site was selected in part for its proximity to Boston, 20 miles away, and for its abundant and inexpensive water supply. Construction began in November 1952, and the facility, consisting of 10 reinforced concrete buildings, began operation in the summer of 1954.

The laboratory complex buildings, completed in 1954 and 1955, included five major research and administrative buildings: the Administration Building (Building 1, also known as Headquarters Building); the Climatic Chambers (Building 2); the Research Building (Building 3); the Development Building (Building 4); and the Technology Engineering Building (Building 5). Among the support buildings constructed were a boiler house (Building 19); an enlisted men's barracks (expanded in 1978-1979); the Hazardous Research Building, now a research and development building (Building 8); and the Laboratory Test Building (Building 7).

Major additions to the original facility have included the Engineering Building (1964, Building 36), the Environmental Medicine Building, and the Navy Research Facility (1990). The Natick Center carries out research development, testing and engineering in food and food service systems, shelters, clothing systems, airdrop systems, and field service equipment to sustain and support combat soldiers. Activities are housed in five prime directorates: Combat Feeding Directorate, Individual Protection Directorate, Airdrop/Aerial Delivery Directorate, Collective Protection Directorate and Supporting Science Directorate. Responsibilities also include the development of specifications and standards for products and commodities with military applications.



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## Cleanup Program Summary

In addition to the facilities mentioned above, the laboratory also includes the Navy Clothing and Textile Research Facility (NCTRF). The NCTRF presently has a laboratory facility in Building 7, with Headquarters in Building 86. Established in 1967, the facility conducts research, design, and development of all protective clothing, dress uniforms, and utility garments worn by most Navy and Coast Guard personnel. The Coast Guard, Bureau of Engraving and Printing, and the US Army Research Institute of Environmental Medicine (USARIEM) are additional tenant agencies located on the post.

### *IRP*

- The Army initiated IRA soil removals at NRDEC 03/13 (Buildings T 62 and T 68 site) and NRDEC 09/12 (Building 14 and former Building 13 site), and replaced monitoring well MW 35B.
- The installation updated the site investigation for NRDEC 11 (former Post Drinking Water Wells site) and the RI for NRDEC 16 (Buildings 22 and 36). In addition, the installation submitted the Tier III sediment ecological and fish consumption human health study to EPA for review.
- Regulatory issues delayed the completion of the IRA soil removals at NRDEC 03/13 (Buildings T 62 and T 68 site) and NRDEC 09/12 (Building 14 and former Building 13 site). Contractual issues delayed the RI for NRDEC 11 (former Post Drinking Water Wells site) and the FS for NRDEC 16 (Buildings 22 and 36).
- The RAB met four times and provided comments on all draft and final reports.
- The Soldier Systems Center continued a cooperative work relationship with EPA and MA DEP.

### Future Plan of Action:

- Complete IRA soil removals at NRDEC 03/13 and NRDEC 09/12 in FY06.
- Complete RI for NRDEC 11 in FY06.
- Complete FS for NRDEC 16 in FY06.
- Complete remedial design for three sediment sites in FY06.

# SOLDIER SYSTEMS CENTER

Installation Restoration Program

**Total AEDB-R IRP Sites / AEDB-R sites with Response Complete:** 17/5

**Different Site Types:**

1 Incinerator	1 Contaminated Building
1 UST	2 Storage Areas
1 Contaminated Fill	3 Contaminated Groundwater
1 POL Line	2 Spill Site Area
1 Other	1 Building Demolition/Debris
2 Contaminated Sediments	1 Disposal Pit/Dry Well

**Most Widespread Contaminants of Concern:** POL, Pesticides, Chlorinated Solvents, Polychlorinated Biphenyls

**Media of Concern:** Groundwater, Soil, Sediment

**Completed Removal (REM)/Interim Remedial Action (IRA)/Remedial Action (RA):**

- Pit Area Waste Oil Tank, Tank and Soil Removed, 1991, \$7.5K
- Tanks Liquid Nitrogen, Removed, May 1993, \$9.5K
- Building 30 Incinerator, Ash Removal, Oct. 93-Feb. 94, \$10K
- Chlordane Contamination, Soil Removal, FY96-FY97, \$200K
- Boiler Plant Soil removal FY01
- Gym Site Soil removal FY02

**Total IRP Funding**

Prior years (up to FY05):	\$ 37,760K
Current year funding (FY06):	\$ 2,098K
Future Requirements (FY07+):	\$ 15,175K
Total:	\$ 55,033K

**Duration of IRP**

Year of IRP Inception: 1980  
Year of IRP RIP/RC: 2009  
Year of IRP Completion including Long-Term Management (LTM): 2029

## ***IRP Contamination Assessment Overview***

An HRS score of 28.5 or higher dictates inclusion on the National Priorities List (NPL). The EPA proposed Natick (NRDEC) for inclusion on the NPL after NRDEC scored 50 using HRS II, soliciting comments in the Federal Register. The Army sent comments to the proposed listing explaining why NRDEC should not be listed, but in the 31 May 1994 issue of the Federal Register, the EPA officially included Natick (NRDEC) on the National Priorities List (NPL). NRDEC was placed on the NPL because of the groundwater contamination (TCE) in the T-25 Area (NRDEC-05). The contamination has moved off-site. NRDEC currently shows levels of TCE, above MCL, in off-post groundwater. A pump and treat system was installed in 1998 to control the movement and to clean the TCE plume.

Sediment contaminated with PCBs, pesticides, and PAHs has been identified in Lake Cochituate at three locations. This contamination is being investigated under NRDEC-07, -10, and -17.

The installation lies within “zone two” of Natick’s municipal drinking water supply system, which has the effect of limiting the options available for remediating contaminated groundwater.

## ***Cleanup Exit Strategy***

Areas of contaminated soil have been identified and are being addressed via a series of removal actions that have been completed and one that is in progress for the Building 14 and former Building 13 site (NRDEC-09 and NRDEC-12).

Groundwater in the T-25 Area (NRDEC-05) is being contained and treated since 1998 by a pump and treat system in accordance with a Record of Decision signed in 2001. Expansion of the groundwater treatment system to two other sites NRDEC-11 and NRDEC-16 is in progress. In addition, a remedial optimization study to evaluate the effectiveness and feasibility of conducting limited in-situ groundwater treatment is in progress in the T-25 area, and may be expanded to other areas if successful.

Three areas of lake sediment contaminated with PCBs and PAH compounds have been identified at the three stormwater outfalls. Currently, risk assessments for these areas of sediment indicate that they pose no risk to environmental receptors. Assessments for human health risk associated with the sediments indicate no significant risk via ingestion or absorption of sediment or water. A risk assessment for fish consumption is in progress and preliminary results have indicated that some limited remedial action may be required.

### **Previous Studies**

#### **1978**

- Analysis of Existing Facilities/Environmental Assessment Report, U.S. Army Natick Research and Development Command, Natick, Massachusetts, 11/1/1978

#### **1980**

- Installation Assessment of U.S. Army Natick Research and Development Command, Report # 170, 5/1/1980

#### **1990**

- Phase II Petrix Gas Survey conducted at U.S. Army Natick Research, Development and Engineering Center (NRDEC), 4/1/1990

#### **1993**

- Final Report Master Environmental Plan for the U.S. Army Natick Research, Development and Engineering Center (NRDEC), 1/1/1993
- Interim Remedial Action Study, Remedial Investigation/Feasibility Study (RI/FS) for T-25 Area at the U.S. Army Natick Research, Development, and Engineering Center (NRDEC), Natick, Massachusetts, 3/23/1993
- EPA Final Hazard Ranking System (HRS), U.S. Army Natick Research, Development and Engineering Center (NRDEC), 5/10/1993
- Draft Report, Assessment of Location-Specific Applicable or Relevant and Appropriate Requirements (ARARS) for the U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick, Massachusetts, 6/15/1993

#### **1994**

- Draft Feasibility Study Report, T-25 Area at the U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick, Massachusetts, 7/1/1994
- Agency for Toxic Substances and Disease Registry, Department of Health and Human Services, Public Health Service Site Visit Summary for the U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick, Massachusetts, 9/1/1994
- Draft Remedial Investigation (RI) Addendum T-25 Area and Water Supply Wells at the U.S. Army Natick Research, Development and Engineering Center (NRDEC), 9/1/1994

#### **1995**

- Draft Geophysical Investigation, Natick Research and Development Engineering Center (NRDEC), Natick, Massachusetts, 1/1/1995
- Prepare Ground Water Model for Natick Research and Development and Engineering Center (NRDEC), Draft Technical Plan, 3/10/1995
- Draft Work Plan Remedial Investigation/Feasibility Study (RI/FS) and Interim Remedial Alternatives (IRA) Study and Design for the T-25 Area at the U.S. Army Natick Research, Development and Engineering Center (NRDEC), 3/1/1995

### 1996

- Draft Stepped Rate Aquifer Test Design, T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 3/1/1996
- Final Health and Safety Plan, Remedial Investigation/Feasibility Study (RI/FS) for T-25 Area at U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick, Massachusetts, 6/1/1996
- Final Work Plan - Phase II Remedial Investigation (RI) for T-25 Area at the U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts, 6/1/1996
- Final Quality Assurance Project Plan - Phase II Remedial Investigation (RI) for T-25 Area at the U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts - Volume I of II, 6/1/1996
- Final Quality Assurance Project Plan - Phase II Remedial Investigation (RI) for T-25 Area at the U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts - Volume II of II, 6/1/1996
- Final Quality Assurance Project Plan Remedial Investigation/Feasibility Study (RI/FS) and Interim Remedial Alternatives (IRA) Study and Design for T-25 Area at the U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick, Massachusetts, 7/1/1996
- Draft Final Community Relations Plan - U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts, 7/1/1996
- Draft Final Letter Report Survey of Local Properties - Remedial Investigation/Feasibility Study (RI/FS) for T-25 Area at the U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick, Massachusetts, 7/1/1996
- Phase I Final Work Plan - Remedial Investigation/Feasibility Study (RI/FS) and Interim Remedial Alternatives (IRA) Study and Design for T-25 Area at the U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick Massachusetts, 8/1/1996
- Final Phase I Remedial Investigation (RI) Report Volume I of III Sections 1.0 through 8.0 - T-25 Area at the U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick, Massachusetts, 8/1/1996
- Final Phase I Remedial Investigation (RI) Report Volume II of III Appendices - T-25 Area at the U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick, Massachusetts, 8/1/1996
- Final Phase I Remedial Investigation (RI) Report Volume III of III Appendices - T-25 Area at the U.S. Army Natick Research, Development and Engineering Center (NRDEC), Natick, Massachusetts, 8/1/1996
- Draft Final Quarterly Ground Water Monitoring Report (Summer and Fall 1995) - T-25 Area, Water Supply Well Area, and Former Proposed Gymnasium Area at the U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts, 8/1/1996
- DRAFT Action Memorandum Storage Area, U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts, Revision 1, 11/1/1996
- Draft Quarterly Ground Water Monitoring Report (Winter 1996 and Spring 1996) - T-25 Area, Water Supply Well Area, and Former Proposed Gymnasium Area, and Boiler Plant Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 12/1/1996

### 1997

- Phase II Field Investigation Data, Remedial Investigation (RI) of the T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 1/1/1997
- Draft Quality Assurance Project Plan-Addendum, Sections 1.0 - 15.0, U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 5/1/1997
- Draft Health and Safety Plan-Addendum Former Proposed Gymnasium Site, SSCOM Water Supply Wells Remedial Investigation (RI) Data Item A003, 5/1/1997
- Draft Final Work Plan, Former Proposed Gymnasium Site, SSCOM Water Supply Wells Remedial Investigation (RI) Data Item A003, 6/1/1997
- Final Report Ground Water Model for Soldier Systems Command (SSCOM), Natick, Massachusetts, 6/1/1997
- Draft Quarterly Ground Water Monitoring Report (Summer 1996, Fall 1996 and Winter 1996/1997) - T-25 Area, Water Supply Well Area, and Former Proposed Gymnasium Area, and Boiler Plant Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 6/1/1997
- Agency for Toxic Substance and Disease Registry Public Health Assessment for Natick Laboratory Army Research a/k/a U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 7/1/1997
- Final Site Safety and Health Plan for Storage Area Removal Action T-25 Area, U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 8/1/1997
- Final Removal Action Work Plan for Storage Area Removal Action T-25 Area, U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 8/1/1997
- Final Treatability Study Work Plan - T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 10/15/1997
- Final Work Plan Former Proposed Gymnasium Site, Soldier Systems Command (SSCOM) Water Supply Wells Remedial Investigation (RI) Data Item A003, 12/1/1997

### 1998

- Draft Final Quarterly Groundwater Sampling Report Event 14 (July 1997) at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 3/1/1998
- Public Health Assessment for the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 3/1/1998
- Health Consultation for the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 3/1/1998
- Draft Technical Work Plan, Groundwater Modeling at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 4/1/1998
- Draft Final Quarterly Groundwater Sampling Report Event 15 (January 1997) at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 6/1/1998
- Draft Work Plan for Site Investigation for Boiler Plant, Former Hazardous Materials Storage Building, Former Piggery, and Building T-23, U.S. Army Environmental Center, Aberdeen Proving Grounds, Maryland, 6/1/1998
- Storm Water Sampling Report, Contract No. DAAK60-97-P-4847, prepared for Soldier Systems Command (SSCOM), 8/1/1998



### 1998 (con't)

- Draft Final Work Plan for Site Investigation for Boiler Plant, Former Hazardous Materials Storage Building, Former Piggery, and Building T-23, U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 9/1/1998
- Draft Final Quarterly Groundwater Sampling Report Event 16 (April 1998) at the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 10/1/1998
- Tier II Ecological Risk Assessment Work Plan, T-25 Area at the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 11/1/1998
- Draft Addendum to Quality Assurance Project Plan, Tier II Ecological Risk Assessment and Treatability Study Operation and Maintenance for T-25 Area at the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 11/1/1998
- Final Phase II Remedial Investigation (RI) Report Volume I sections 1.0 through 4.0 - T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 12/1/1998
- Final Phase II Remedial Investigation (RI) Report Volume II sections 5.0 through 9.0 - T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 12/1/1998

### 1999

- Draft Remedial Investigation Report (RI), Former Proposed Gymnasium Site, Data Item A013, Volume I of II-Text, Figures And Tables, 1/1/1999
- Draft Remedial Investigation Report (RI), Former Proposed Gymnasium Site, Data Item A013, Volume II of II-Appendices A through V, 1/1/1999
- Final Removal Action Report, Storage Area Removal Action T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts, 2/1/1999
- Draft Final Quarterly Groundwater Sampling Report Event 17 (August 1998) U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 2/1/1999
- Draft Remedial Investigation (RI) Report Soldier Systems Center (SSC) Water Supply Wells Site, Volume I of II: Text, Tables & Figures, 3/1/1999
- Draft Remedial Investigation (RI) Report Soldier Systems Center (SSC) Water Supply Wells Site, Volume II of II: Appendices A through R, 3/1/1999
- Draft Final Quarterly Groundwater Sampling Report Event 18 (December 1998) U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 5/1/1999
- Draft Final Quarterly Groundwater Sampling Report Event 19 (March 1999) U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 6/1/1999
- Final Focused Feasibility Study/Treatability Study, T-25 Area at the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 9/1/1999
- Transcript of Public Hearing, Re: U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts Proposed Plan to Clean Up Groundwater at the T-25 Area, 9/23/1999
- Tier II Ecological Risk Assessment Work Plan, Main Storm water Outfall (MSO) Area, U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 10/1/1999



### 2000

- Draft Final Quarterly Groundwater Sampling Report Event 20 (July 1999) U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 2/1/2000
- Draft Storm water Sampling Report; U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 3/1/2000
- Working Draft, Interim Technical Memorandum, T-25 Area Storm water Outfall, Tier II Ecological Risk Assessment, U.S. Army Soldier Systems Center (SSC), 4/1/2000
- Draft Preliminary Phase II Site Investigation Report, Boiler Plant Site, Soldier Systems Center (SSC), Natick, Massachusetts, Data Item A003, 5/1/2000
- Draft, Quarterly Groundwater Monitoring Report Event 21 (October 1999), Soldier Systems Center (SSC), Natick, Massachusetts, 6/1/2000
- Draft, T-25 Area Tier II Ecological Risk Assessment Report for the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, 6/1/2000
- Draft Technical Memorandum, Building 22, Soldier Systems Center (SSC), Natick, Massachusetts, 9/1/2000
- Draft Work Plan, Building 22 Remedial Investigation (RI), Soldier Systems Center (SSC), Natick, Massachusetts, 9/1/2000

### 2001

- Water Resources Investigation Report, Pond-Aquifer Interaction at South Pond of Lake Cochituate, Natick, Massachusetts, prepared in cooperation with the U.S. Environmental Protection Agency (USEPA) and the U.S. Army, 1/1/2001
- Draft Final, Revised Quality Assurance Project Plan, Soldier Systems Center (SSC), Natick, Massachusetts, Volume I Sections 1.0-14.0 and Appendices A through G, 1/1/2001
- Draft, Final Revised Quality Assurance Project Plan, Soldier Systems Center (SSC), Natick, Massachusetts, Volume II Appendix H Laboratory Quality Assurance Plan and Operating Procedures (Severn Trent Laboratory, Sparks, Maryland), 1/1/2001
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# SOLDIER SYSTEMS CENTER

Installation Restoration Program  
Site Descriptions

## NRDEC-03 T62, T68 LAB PACK WASTE STORAGE

### SITE DESCRIPTION

Both T-62 and T-68 are identical small sheds located on the northwestern end of a concrete loading platform of Building 20. The sheds were built in 1974/5 and 1980/1 respectively. They are constructed with corrugated metal walls and roof and have concrete floors. No berm is present. Each building has windows on two sides.

Both buildings were used for hazardous waste and chemical storage until a new hazardous waste storage area opened in Building 85. Incoming chemicals were reportedly stored and dispensed from a location next to Building T-62, and chemicals no longer needed on-site were stored in Building T-62 before being removed for off-site disposal. Currently, these buildings are being used for storage of installation restoration program equipment.

Soil samples outside of the building (as part of NRDEC-13) have detects of PAHs. Soil removal was conducted as an IRA in November 2005.

NRDEC-13 will be closed in AEDB-R and incorporated into NRDEC-03. RI/FS was awarded in late FY03. Wall chip, floor, and below-slab soil samples were taken in January 2004.

### CLEANUP STRATEGY

Investigative efforts will be conducted with NRDEC-13. This site will be consolidated with several other sites (NRDEC-03, 06, 09, 12, 13, 14) for a no further action ROD (funded under NRDEC-06).

### STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** Medium

**CONTAMINANTS OF CONCERN:**

Pesticides, Solvents, PAHs

**MEDIA OF CONCERN:**

Soil, Interior Building Surfaces

Phases	Start	End
PA.....	199407 .....	199407
IRA.....	200502 .....	200603
RI/FS.....	200309 .....	200703

**RC:** 200703

# NRDEC-05

## T-25 BULK HAZARDOUS WASTE STORAGE AREA

(Page 1 of 2)

### SITE DESCRIPTION

This area is immediately south and extending southwest of Building T-25. Building T-25 was used for unheated storage of bulk waste, petroleum, solvents, antifreeze, and freon 113 in drums from 1970 until ~1984 when all material was removed from the area. Leakage occurred onto the pavement causing degradation. During excavation, examination of the underlying gravel showed no obvious contamination staining. Additionally, this site was identified within EPA's Hazard Ranking Score.

Since both NRDEC-05 and 07 represent contamination from the T-25 area, funds for groundwater contamination are listed under NRDEC-05 and funds for sediment contamination are listed under NRDEC-07.

A soil-gas study was performed in and around the surrounding area during 1989, yielding relative soil/gas results for BTEX, freon 11, freon 113, TCA, TCE, and PCE. Most of the hits were not in the immediate vicinity where the drums were stored, but further west.

Groundwater contamination has been detected off-post and is in the same aquifer that is used for the municipal water supply. This GW is within the capture zone of a municipal drinking water well field. This limits options for the application of remediation technologies. A pump and treat system was installed in 1998, to control the movement and reduce detection levels of the plume.

The treatment system is proving effective for reducing concentration at the source area and limiting contaminant migration. For example: in the past, one monitoring well in the T-25 Area, MW-15, had TCE detected at a range of 250 – 950 ppb. Currently, TCE levels have dropped to non-detect at MW-15B. As of FY04, contaminant levels have generally been reduced by ~80 percent, but are still above MCLs. Both a cooperative agreement (CA) and a final T-25 Groundwater record of decision (ROD) were signed in September 2001.

The ROD requires the Army to maintain the on-post treatment system, monitor the groundwater and establish institutional controls. The CA provided authority for the Army to compensate the town of Natick (in a lump-sum payment - \$3.1M) for a portion of the cost of the off-post operation and maintenance of the municipal water treatment

### STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** High

**CONTAMINANTS OF CONCERN:**  
Solvents

**MEDIA OF CONCERN:**  
Groundwater, Soil

Phases	Start	End
PA .....	198903.....	199201
SI.....	199203.....	199212
RI .....	199209.....	200112
RA(C) .....	200111.....	200404
RA(O) .....	200009.....	202901
LTM.....	202901.....	203401

**RIP: 200404**  
**RC: 202901**



# **NRDEC-05**

## **T-25 BULK HAZARDOUS WASTE STORAGE AREA**

**(PAGE 2 OF 2)**

system and for establishing and maintaining institutional controls north of the installation.

Three production wells and four monitoring wells were installed in FY03. In FY04, a long-term monitoring plan and an operations plan were finalized. To date, this on-post facility has processed over 210 million gallons of water.

PBC was put into place in September 2005 that covers quarterly monitoring and operation and maintenance of the groundwater treatment system. The PBC scope includes the groundwater portions of sites NRDEC-05, 11 and 16.

### **CLEANUP STRATEGY**

Continue to monitor and operate the pump and treatment system to ensure proper containment of contaminated groundwater in the vicinity of the facility. It is anticipated as a result of the 5-year review in FY06, that additional off-post wells will be connected to the extraction system for optimization purposes. Currently, the model predicts 12 years of active pumping followed by 15 years of monitored natural attenuation in order to reach the cleanup goals. Once cleanup goals are reached, 5 years of monitoring are required.

Based on results of the T-25 area groundwater model update, an in-situ pilot study to enhance groundwater treatment in the T-25 area is planned for FY06.

Existing ROD covers groundwater in the T-25 area. Soil contamination in the T-25 area will be addressed through a separate ROD for soil.



# NRDEC-06 FORMER PROPOSED GYMNASIUM SITE

## SITE DESCRIPTION

This site is a 1.6-acre area situated on a filled-in wet meadow, located in the eastern portion of the installation, between the main entrance gate and Lake Cochituate. A helicopter landing pad was operated for a short time in the early 1970s on what is now a paved parking lot located to the west of the study area. The storage of empty POL bladders has also been reported at this location. In the late 1980s, this area was a proposed site for a new gymnasium. Soil borings performed as part of the geotechnical work emitted an odor thought by the workers to be benzene. With soil analysis detecting 1,4-dichlorobenzene at 3 ppm, the construction was subsequently canceled. Presently, there is a French Drain located in the western portion of the site which drains surface water directly into the lake. This site was identified within EPA's Hazard Ranking Score for Natick. Formerly, spring rain had backed-up the state sewer system and overflow from same runs into the lawn area and French Drain.

From two Petrex soil-gas surveys of the area BTEX, freon 11, freon 113, TCA, TCE, and PCE all occurred with low to moderate ion counts in small to large anomalies throughout the site. BTEX occurred in the largest anomalies. Soil borings yielded positive detections of organics (1,4-dichlorobenzene, BTEX, and freon). Groundwater samples analyzed indicate three volatiles above or close to the MCLs, {i.e., benzene (43.6-120 ug/L), chlorobenzene (26.9-96.2 ug/L), and 1,2 DCE (40ug/L)}.

An interim removal action of ~800 cy of contaminated soil was completed August 2002. Current groundwater concentrations have been reduced significantly, but are still above MCLs. An additional down gradient well was installed and sampled in January 2004. The levels of all contaminants have recently been observed below MCLs.

## CLEANUP STRATEGY

After two years (FY05-FY06) of GW confirmatory sampling, a final RI and ROD will be prepared. This ROD will encompass other sites with no further action planned (NRDEC-03, 06, 09, 12, 13, 14) and funded under this site. This is intended to be the final ROD for these six sites, some of which are soil only(NRDEC-03, 12, 13) and some of which are soil and groundwater(NRDEC-06, 09, 14).

## STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** Medium

**CONTAMINANTS OF CONCERN:**  
POL, Metals, Chlorinated Solvents

**MEDIA OF CONCERN:**  
Soil, Groundwater

Phases	Start	End
PA.....	198901 .....	199206
IRA.....	200111 .....	200405
RI.....	199608 .....	200703

**RC: 200703**

# NRDEC-07 TRANSITORY SHELTER AREA OF T-25

## SITE DESCRIPTION

The area immediately south and extending southwest of Building T-25 was used for outside storage of bulk waste, petroleum, solvents, antifreeze, and freon 113 in drums from 1970 until 1989 when all material was removed from the area. Leakage occurred onto the pavement causing degradation. During excavation, examination of the underlying gravel showed no obvious contamination staining. This site was identified within EPA's Hazard Ranking Score (50).

Since both NRDEC-05 and 07 represent contamination from the T-25 area, funds for groundwater contamination are listed under NRDEC-05 and funds for sediment contamination are listed under NRDEC-07. NRDEC-07 is located in Lake Cochituate, part of a state park.

Sediments in the T-25 outfall area are contaminated with pesticides and PAHs. The lateral extent of sediment contamination is 50 ft. to ~250 ft. from shore and ~100 ft wide. In 1997, an oil/water separator was installed to reduce the potential for future release from the outfall (non-IRP funds).

A screening level assessment indicated no risk to human health from exposure to sediments and surface water. In general, the state Department of Public Health, based on previous sampling, has placed an advisory recommending limitations (sensitive populations - American eel and large-mouth bass) on fish consumption only. The Tier II (2000) study found ecological risk. The Tier III study examined fish tissue for contamination. The final Tier III study issued in FY04 confirmed Tier II results.

Sediment contamination in Lake Cochituate is now being managed together with NRDEC-10 and -17 as one operable unit.

## CLEANUP STRATEGY

The Sediment Risk Management Tech Memo is expected to be finalized in Autumn 2006.

Sediment removal is anticipated.

## STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** High

**CONTAMINANTS OF CONCERN:**  
Pesticides, PAH

**MEDIA OF CONCERN:**  
Sediment

Phases	Start	End
PA .....	198901 .....	199206
SI .....	199203 .....	199212
RI .....	199209 .....	200704
RD .....	200704 .....	200706
RA(C) .....	200706 .....	200709

**RC: 200709**

# NRDEC-09 BLDG 14 POL HAZARDOUS SITE

## SITE DESCRIPTION

The building is located in the southwest corner of the T-25 area, which encompasses Building 14 (51 x 134 feet). One of several dry wells was located along the southern end of the oil shed, which is in the northeastern corner of the building. There was a former fueling station located off the southeast corner of the building. A manhole cover off the southeast corner of the building indicates the location of the existing oil/water separator.

Former activities at Building 14 included insect and rodent control, vehicle maintenance, metal parts and brush cleaning, battery charging, silk screening, and thinning rubber adhesives. Vehicle and equipment maintenance have been the main activities in the building.

The 1,000-gallon oil/water separator was renovated in FY92. During excavation of the area in front of Building 14, evidence of soil contamination was found. Soil samples showed up to 6,000 ppm of hydrocarbons. In FY03, PAHs exceeding state standards were detected in groundwater and soil. Additional samples were taken in FY05.

## CLEANUP STRATEGY

In FY06, an IRA soil removal will be completed. Pending results of the IRA, this site may be included in NFA ROD with several other sites (NRDEC-03, 06, 09, 12, 13, 14).

Perform additional assessment, complete RI/FS. LTM may be required.

## STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** Medium

**CONTAMINANTS OF CONCERN:**  
POL, PAH

**MEDIA OF CONCERN:**  
Soil, Groundwater

Phases	Start	End
PA.....	199103 .....	199202
SI .....	200109 .....	200409
IRA.....	200503 .....	200509
RI .....	200609 .....	200710

**RC: 200710**

# NRDEC-10

## BLDG 5, PCB CONTAMINATION SITE AND PAD

### SITE DESCRIPTION

In 1980, a transformer explosion spread PCB fluid on the pad and surrounding grass area. This source was remediated in May 1992 under contract by the Corps of Engineers with Environmental Compliance Achievement Program funds. Two transformers located on a 47 ft x 12.5 ft x 17 inch concrete substation pad enclosed by a fence near Building 5 (the Technology Center), were replaced by PCB-free units in 1990.

In 1998, sediments at the Main Outfall from SSC into Lake Cochituate were discovered to contain PCBs. This outfall drains from the area where the transformers were located at Building No.5. The lateral extent of sediment contamination is approximately 400 by 200 ft.

A screening level assessment indicated no risk to human health from exposure to sediments and surface water. In general, the state Department of Public Health, based on previous sampling, has placed an advisory that recommends limitations (sensitive populations - American eel and large-mouth bass) on fish consumption only. The Tier II (2000) study found ecological risk. The Tier III study examined fish tissue for contamination. The final Tier III study issued in FY04 confirmed Tier II results.

Sediment contamination in Lake Cochituate is now being managed together with NRDEC-7 and -17 as one operable unit.

### CLEANUP STRATEGY

The Sediment Risk Management Tech Memo is expected to be finalized in Autumn 2006.

Sediment removal is anticipated.

### STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** High

**CONTAMINANTS OF CONCERN:**  
PCBs, PAHs

**MEDIA OF CONCERN:**  
Sediment

Phases	Start	End
PA.....	198901 .....	199206
SI .....	199203 .....	199212
IRA.....	199205 .....	199302
RI .....	199910 .....	200704
RD .....	200704 .....	200706
RA(C).....	200706 .....	200709

**RC: 200709**

**POST DRINKING WATER WELLS (PAGE 1 OF 2)****SITE DESCRIPTION**

This site is also known as Building 63, 2 and 45.

This site consists of two approximately 50 feet deep supply wells located on a peninsula on the south end of the post, exiting out into Lake Cochituate. Two 300 gallon per minute submersible pumps supplied well water to Building No. 63 (Pump House). At Building No. 63, water was chlorinated within a wet well and was pumped into the distribution system for public consumption at a rate of approximately 100,000 gallons per day. SSC decommissioned the system in 1995 and is currently using the town of Natick water supply.

Contaminants detected at the drinking water wells are TCE, PCE and DCE, all levels are below MCLs.

During the investigation, a second TCE groundwater plume was found that is believed to be coming from Building 2 and 45, extending to the lake. Levels in this plume were up to 150 ppb. Building 2 was constructed between 1952 and 1955 to conduct performance testing in arctic and tropical climates of food, clothing, equipment, and human response to temperatures, weather, and work conditions. TCE and freon 11 were used within closed systems of the building for climate control.

There are no records of past spills of TCE at Building 2. In 1994, the Army discontinued the use of TCE and freon 11, and 2,776 gallons of TCE were removed from the Building 2 climate control system.

In fall 2003, the Army installed ten additional monitoring wells southeast and southwest of Bldgs 2 and 45 to delineate the plume.

PBC was put into place in September 2005 that covers quarterly monitoring and operation and maintenance of the groundwater treatment system. The PBC scope includes the groundwater portions of sites NRDEC-05, 11 and 16.

**STATUS**

**REGULATORY DRIVER:** CERCLA

**RRSE:** Low

**CONTAMINANTS OF CONCERN:**  
Chlorinated Solvents

**MEDIA OF CONCERN:**  
Groundwater

Phases	Start	End
PA .....	199001 .....	199209
SI .....	199403 .....	199803
IRA .....	199501 .....	200611
RI .....	199804 .....	200705
RD .....	200603 .....	200709
RA(C) .....	200603 .....	200711
RA(O) .....	200712 .....	201712
LTM .....	201801 .....	202301

**RIP: 200712**

**RC: 201712**

**POST DRINKING WATER WELLS** (PAGE 2 OF 2)**CLEANUP STRATEGY**

A RI/FS will be completed for the second plume, with particular emphasis on source location. Assuming a well defined source is located, a small pump and treat system connecting to the existing treatment system possibly in combination with limited in situ treatment will be a likely remedy. This action is part of the PBC scope.

# NRDEC-12

## BUILDING 13 CLASSIFIED INCINERATOR

### SITE DESCRIPTION

The building (11 x 15 ft) housed an incinerator used for destroying classified paperwork. This site has not been used since 1985. Asbestos pipe insulation was removed by the Corps of Engineers in 1990. The structure and incinerator were removed in 1997. The ash was disposed of under a RCRA manifest. The building foundation is still in place.

Building 13 also had a car wash rack and a sanitary sewage ejector tank. In front of the building, a pad was formerly used for mixing pesticides and degreasing.

Pesticides and PAHs were detected in surficial soil above state standards. Examination of the incinerator feed stream will be completed in FY06.

### STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** Low

**CONTAMINANTS OF CONCERN:**  
Pesticides, PAHs

**MEDIA OF CONCERN:**  
Soil

Phases	Start	End
PA.....	199110 .....	199301
SI .....	199904 .....	199909
IRA.....	199807 .....	200609
RI .....	200109 .....	200703

**RC: 200703**

### CLEANUP STRATEGY

In FY06, an IRA soil removal will be completed. Pending results of the IRA, this site may be included in NFA ROD with several other sites (NRDEC-03, 06, 09, 12, 13, 14).

## NRDEC-14 BOILER PLANT AREA (BUILDING 19)

### SITE DESCRIPTION

This site consists of a blow down tank and associated former leaching field connected to Building 19, Boiler Basement floor drains. Building 19 housed a former pesticide mixing area in the basement that might have been connected to leach field. This site also housed a transformer vault.

In FY01, the leach field soil was removed as part of the IRA and a closure report was completed. Confirmatory GW sampling was initiated in 2004 for the duration of two years.

### CLEANUP STRATEGY

Groundwater monitoring is being funded under NRDEC-05. The SI report will be completed in FY07. This site will be consolidated with several other sites (NRDEC-03, 06, 09, 12, 13, 14) for a no further action ROD (funded under NRDEC-06).

### STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** Low

**CONTAMINANTS OF CONCERN:**  
POL, Pesticides, PCBs

**MEDIA OF CONCERN:**  
Soil, Groundwater

<b>Phases</b>	<b>Start</b>	<b>End</b>
PA.....	199110 .....	199301
IRA.....	200009 .....	200206
SI .....	199804 .....	200703

**RC:** 200703



## NRDEC-16 BUILDING 22 AND 36

### SITE DESCRIPTION

During the SI of the Boiler Plant, a PCE groundwater plume was discovered associated with Building 22. Building 22 was the former Hazardous Materials Issue Building from the 1950s to 1989.

A RI was started in FY00 to delineate the contamination. Soil and sediment samples in the area also show PCE contamination. The plume (440 ft. X 500 ft.) now extends from Bldg 36 to Bldg 22 and discharges into the lake sediments on both sides of the peninsula. Diffusion samplers indicate the presence of PCE in sediment. Groundwater sampling results indicate up to 600 ppb of PCE.

The FS is expected to be completed in FY07.

### CLEANUP STRATEGY

It is likely that groundwater from this area will be extracted and directed to the existing T-25 pump and treat system, possibly in combination with enhanced in-situ bioremediation. This action is part of the PBC scope.

### STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** Medium

**CONTAMINANTS OF CONCERN:**  
PCE

**MEDIA OF CONCERN:**  
Soil, Sediment, Groundwater

Phases	Start	End
PA .....	199804 .....	199806
SI .....	199808 .....	200010
RI .....	200009 .....	200705
RD .....	200603 .....	200709
RA(C) .....	200603 .....	200711
RA(O) .....	200712 .....	202109
LTM .....	202109 .....	202610

**RIP:** 200712

**RC:** 202109

# NRDEC-17

## BUILDING 2 & 45, PARKING LOT OUTFALL

### SITE DESCRIPTION

The stormwater outfall immediately south of Buildings 2 & 45 receives parking lot runoff and discharges into Lake Cochituate. The contaminated sediment is located in Lake Cochituate State Park.

The lateral extent of sediment contamination is approximately 50 ft to 100 ft from shore. In 1997, an oil/water separator was installed to reduce the potential for future release from the outfall (non-IRP funds).

A screening level assessment indicated no risk to human health from exposure to sediments and surface water. In general, the state Department of Public Health, based on previous sampling, has placed an advisory recommending limitations (sensitive populations - American eel and large-mouth bass) on fish consumption only. The Tier II (2000) study found ecological risk. The Tier III study examined fish tissue for contamination. The final Tier III study issued in FY04 confirmed Tier II results.

Sediment contamination in Lake Cochituate is now being managed together with NRDEC-7 and -10 as one operable unit.

### STATUS

**REGULATORY DRIVER:** CERCLA

**RRSE:** High

**CONTAMINANTS OF CONCERN:**  
PCBs, PAHs

**MEDIA OF CONCERN:**  
Sediment

Phases	Start	End
PA.....	198901 .....	199206
SI .....	199203 .....	199212
RI .....	200209 .....	200704
RD .....	200704 .....	200706
RA(C).....	200706 .....	200709

**RIP: 200709**

**RC: 200709**

### CLEANUP STRATEGY

The Sediment Risk Management Tech Memo is expected to be finalized in Autumn 2006.

Sediment removal is anticipated.

### **SITE DESCRIPTION**

A PBC awarded August 2005. The PBC covers sites NRDEC-05 funds for RAO phase and NRDEC-09, 11, and 16.

### **CLEANUP STRATEGY**

Sample 10 wells annually for a 17 year duration based on updated model and preliminary FS - NRDEC-16.

### **STATUS**

**REGULATORY DRIVER:** CERCLA

**RRSE:** Low

**CONTAMINANTS OF CONCERN:**  
PCBs, PAHs

**MEDIA OF CONCERN:**  
Groundwater

<b>Phases</b>	<b>Start</b>	<b>End</b>
PA .....	200409 .....	200503
RD .....	200503 .....	200606
RA(C) .....	200508 .....	200611
RA(O) .....	200508 .....	201509

**RIP:** 200611

**RC:** 201509

# AREAS OF CONCERN

## SITE DESCRIPTION

### Sewer Line

The main sewer line for the installation runs along Kansas St. and empties into the Natick sewer system. The sewer pipe is made out of iron and vitrified clay. In a video taken of the main sewer line, there appeared to be no major cracks or broken pipes, only a few misalignments. The concern of this area to regulators is in the potential contamination due to permitted hazardous materials being introduced into the sewer system from activities being conducted in buildings on post. In the future, contamination in the sewer line will be traced to the source and dealt with under the source site.

### Test Drop Area

The test drop area is located in the warehouse area and is used to test the strength of objects being dropped from various heights. The area is of concern to regulators is due to it being located on a rainwater leaching field with storm drains, although the leach basin was only installed in the late 1980s. Contamination could have occurred from testing in the drop area or on the pavement near the leaching field. No investigation of the area has occurred.

## IRP No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
NRDEC-02	BUILDING 30 INCINERATOR	All Required Cleanup Completed	199404
NRDEC-04	PIT AREA WASTE OILS STORAGE TANK	Study Completed, No Cleanup Required	200507
NRDEC-08	TANKS LIQUID NITROGEN	All Required Cleanup Completed	199305
NRDEC-13	PAH CONTAMINATION	Included in NFA ROD with sites 3,6,14	200504
NRDEC-15	CHLORDANE CONTAMINATION	Study Completed, No Further Cleanup Required; Closure Report	199909

***Initiation of IRP:*** 1980

### ***Past Phase Completion Milestones***

#### **1980**

- IRP Preliminary Installation Assessment, May

#### **1991**

- Post Expanded Site Investigation, March
- SI Pit Area Waste Oil Tank, May

#### **1992**

- Post Expanded Site Investigation Addendum, January
- RA Bldg 5 PCB Contamination, May
- RA Tanks Liquid Nitrogen, October

#### **1993**

- Master Environmental Plan, January
- IRA Bldg 30 Incinerator, September

#### **1996**

- Phase 1 RI/FS T-25 Site, June

#### **1997**

- Groundwater Model Phase I, June
- RA Chlordane Cont., December

#### **1998**

- Phase 2 RI/FS T-25 Site, December
- Draft RI/FS Former Gymnasium Site, December

#### **1999**

- Final T-25 Focused Feasibility Study, September
- Draft Water Supply Well R/I, March

#### **2001**

- Record of Decision T25 Groundwater, September
- IRA Boiler Plant, September
- IRA NRDEC-06, soil removal

#### **2003**

- NRDEC-16, Remedial Investigation Report FY03

### 2005

- NRDEC-07, 10, 17, RI Report (Tier III) FY05
- NRDEC-09, 12 Remedial Investigation FY05
- NRDEC-11, Remedial Investigation FY05
- NRDEC-13, Soil Removal FY05

### 2006

- NRDEC-06, Remedial Investigation Report FY06

#### ***Projected Record of Decision (ROD)/ Decision Document (DD) Approval Dates:***

Sediment ROD – NRDEC-07, 10, 17(2007), NFA ROD – NRDEC-03, 06, 09, 12, 14 (2007), Groundwater ROD Addendum – NRDEC-05, 11, 16(2008)

***Projected Construction Completion Date of IRP and Removal from NPL:*** 2008

***Schedule for Next Five Year Review:*** In Progress (Due October 2006)

***Estimated Completion Date of IRP (including LTM phase):*** 2034

# SOLDIERS SYSTEM CENTER IRP SCHEDULE

(Based on current funding constraints)

AEDB-R#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
NRDEC-05	RA(O)									202901
	LTM									203401
NRDEC-07	RA(C)									
NRDEC-09	RI/FS									
NRDEC-10	RA(C)									
NRDEC-11	RA(O)									201712
	LTM									202301
NRDEC-12	RI									
NRDEC-16	RA(O)									202109
	LTM									202610
NRDEC-17	RA(C)									
PBC	RA(O)									201509



## Prior Years Funds

**Total Funding up to FY04: \$33,017K**

Year	Site Information		Expenditures	FY Total
<b>FY05</b>	NRDEC-05	RAO	233.52	
	NRDEC-06	RI	92.26	
	NRDEC-07	RI	72.00	
	NRDEC-10	RI	73.00	
	NRDEC-17	RI	73.00	
	PBC at SSC	RAC	4,199.04	<b>4,742.82</b>

**Total Funding FY05: \$ 4,743K**

## Current Year Requirements

Year	Site Information		Expenditures	FY Total
<b>FY06</b>	NRDEC-05	RAO	60.000	
	NRDEC-05	RAO	54.121	
	NRDEC-05	RAO	55.100	
	NRDEC-05	RAO	25.072	
	NRDEC-05	RAO	90.777	
	NRDEC-05	RAO	30.000	
	NRDEC-05	RAO	60.730	
	NRDEC-05	RAO	20.000	
	NRDEC-06	RI	100.000	
	NRDEC-07	RD	79.600	
	NRDEC-09	RI	449.463	
	NRDEC-10	RD	88.823	
	NRDEC-11	RI	40.000	
	NRDEC-14	SI	70.000	
	NRDEC-16	RD	23.000	
	NRDEC-17	RD	79.600	
	PBC@SSC	RAC	748.000	<b>\$2,098,286</b>

**Total Funding FY06: \$2,098K**

**Total Future Requirements: \$ 15,175K**

**Total IRP Program Cost (from inception to completion of the IRP): \$ 55,033K**

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## Community Involvement

The U.S. Army Soldier Systems Center (SSC) established a Restoration Advisory Board (RAB) in 1995 to bring local citizens into the decision making process on environmental issues. The Board consists of representatives from the Army, Environmental Protection Agency, Massachusetts Department of Environmental Protection, Massachusetts Department of Environmental Management, SSC employee representatives, and community members. The community members were chosen to represent different groups within the town of Natick (i.e. Lakewood Neighborhood Association [received TAG], Lake Cochituate State Park, Lake Cochituate Advisory Committee) and act as information liaisons between the community and the U.S. Army. The Lakewood Association was awarded a Technical Assistance Grant (TAG) to help better understand technical information involved with restoration activities. As an advisory committee, the RAB reviews environmental documents and plans, helps prioritize budget expenditures, provides advice to the U.S. Army, and communicates information back to the community. The RAB has met periodically since August 1995.